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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/770,427	02/04/2004	John H. Reid	MPL-03-14	1936

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EXAMINER
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PRINCE, FRED G

ART UNIT	PAPER NUMBER
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1724

DATE MAILED: 06/09/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/770,427

Applicant(s)

REID, JOHN H.

Examiner

Fred Prince

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 04 February 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-23 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 4-23 is/are allowed.
- 6) ☒ Claim(s) 1-3 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 0204.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

**DETAILED ACTION**

***Claim Rejections - 35 USC § 102/103***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-2 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Andrews (US Pat No 3,276,994).

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Andrews teaches a jet recirculation pump (103) having controllable (100, 112) dual-use inflows (98, 102). Regarding the recitation of a higher nitrate recycle rate than is typically used is available for either an MLE process or a Bio-P process without incurring higher operating costs for electric power and higher capital costs for larger pumps and piping, it is submitted that the recitation is a process limitation that fails to add structure to the apparatus. Process limitations are not given patentable weight in apparatus claims as they recite intended use of the apparatus, hoped-for results, and/or conditions of operation. If it is applicant's position that the recitation somehow adds structure to the claims, it is submitted that the pump of the instant reference is capable of performing the recited function.

4. Claims 1-2 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Velebil et al. (US Pat No 4,832,848).

Velebil et al. teach a jet recirculation pump (29a) having controllable (Fig. 1) dual-use inflows (2, and inlet inside vessel). Regarding the recitation of a higher nitrate recycle rate than is typically used is available for either an MLE process or a Bio-P process without incurring higher operating costs for electric power and higher capital costs for larger pumps and piping, it is submitted that the recitation is a process limitation that fails to add structure to the apparatus. Process limitations are not given patentable weight in apparatus claims as they recite intended use of the apparatus, hoped-for results, and/or conditions of operation. If it is applicant's position

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that the recitation somehow adds structure to the claims, it is submitted that the pump of the instant reference is capable of performing the recited function.

5. Claim 1 is rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Nasr et al.

Nasr et al. teach a jet recirculation pump (20) having dual-use inflows (15, 34, 32). Regarding the recitation of a higher nitrate recycle rate than is typically used is available for either an MLE process or a Bio-P process without incurring higher operating costs for electric power and higher capital costs for larger pumps and piping, it is submitted that the recitation is a process limitation that fails to add structure to the apparatus. Process limitations are not given patentable weight in apparatus claims as they recite intended use of the apparatus, hoped-for results, and/or conditions of operation. If it is applicant's position that the recitation somehow adds structure to the claims, it is submitted that the pump of the instant reference is capable of performing the recited function.

6. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over any one of the above references.

The references are described above. None of the references explicitly discloses monitoring the amount of inflow.

It is submitted that it is conventional in the art to monitor the amount of inflow in order to, for instance, avoid upsetting the delicate balance of reactions in a bioreactor. Accordingly, it would have been readily obvious for the skilled artisan to have modified

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the pump of any one of the above references in order to, for instance, avoid upsetting the delicate balance of reactions in a bioreactor, as known in the art.

***Allowable Subject Matter***

7. Claims 4-23 are allowed.

8. The following is a statement of reasons for the indication of allowable subject matter: While it is known in the art to utilize a dual-use inflows in with a jet recirculation pump, in the examiner's opinion, the prior art fails to teach or fairly suggest utilizing a jet recirculation pump with dual-use inflows in processes having the recited operational elements and conditions. The instant invention has the benefit of reducing the capital and operating costs in a high-efficiency MLE process and in a high-efficiency Bio-p process and avoiding the use of separate pumps for transferring large volumes of mixed liquor from one reactor to another reactor, especially when such reactors are disposed in deep tanks.

***Conclusion***


9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. References are cited of interest to show the state of the art.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Fred Prince whose telephone number is (571) 272-1165. The examiner can normally be reached on Monday-Thursday, 6:30-4:00; alt. Fridays 6:30-3:00.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Duane Smith can be reached on (571) 272-1166. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
Fred Prince  
Primary Examiner  
Art Unit 1724

fgp  
6/7/05